

What is claimed is:

1 1. A method for determining the signature of an entity, the method
2 comprising:
3 ascertaining at least one signature per-unit-area value for said entity; and
4 modeling said entity, said modeling including regionalizing said entity so as
5 to be indicative of said at least one per-unit-area signature value.

1 2. The method according to claim 1, wherein:
2 for each said signature per-unit-area value, said ascertaining includes:
3 one of measuring the signature of a representation of said entity and
4 calculating the signature of a representation of said entity; and
5 calculating said signature per-unit-area value as a function of aspect
6 angle and frequency; and
7 said regionalizing includes effecting a plurality of three-dimensional scattering
8 elements, each said three-dimensional scattering element having associated
9 therewith a said signature per-unit-area value.

1 3. The method according to claim 1, wherein said signature is selected from
2 the group consisting of electromagnetic signature and acoustic signature.

1 4. The method according to claim 1, wherein said signature is an

2 electromagnetic signature, and wherein said electromagnetic signature is a radar
3 signature.

1 5. The method according to claim 1, wherein the method comprises summing
2 said three-dimensional scattering elements as a function of azimuth and frequency.

1 6. The method according to claim 5, wherein said signature is selected from
2 the group consisting of electromagnetic signature and acoustic signature.

1 7. The method according to claim 5, wherein:
2 said signature is an electromagnetic signature;
3 said electromagnetic signature per-unit-area value is a function of aspect
4 angle and frequency; and
5 said signature per-unit-area value is an electromagnetic signature per-unit-
6 area value.

1 8. The method according to claim 7, wherein, for each said electromagnetic
2 signature per-unit-area value, said ascertaining includes:

3 (a) one of :

4 (i) measuring the signature of a representation of said entity, and

5 (ii) calculating the signature of a representation of said entity; and

6 (b) calculating said signature per-unit-area value as a function of aspect angle

7 and frequency.

1 9. The method according to claim 8, wherein said electromagnetic signature
2 per-unit-area value is an electromagnetic cross-section per-unit-area value.

1 10. The method according to claim 7, wherein said electromagnetic signature
2 is a radar signature, and wherein said electromagnetic signature per-unit-area value
3 is an radar signature per-unit-area value.

1 11. The method according to claim 10, wherein:
2 said radar signature per-unit-area value is a radar cross-section per-unit-area
3 value;

4 for each said radar cross-section signature per-unit-area value, said
5 ascertaining includes measuring the radar cross-section signature of a
6 representation of said entity, and calculating said radar cross-section signature per-
7 unit-area value as a function of aspect angle and frequency; and

8 said regionalizing includes effecting a plurality of three-dimensional scattering
9 elements, each said three-dimensional scattering element having associated
10 therewith a said radar cross section signature per-unit-area value.

1 12. The method according to claim 5, wherein:

2 said signature is an acoustic signature;

8 elements each of which is characterized by said incoherent signature cross-section
9 per unit area.

1 15. A method as recited in claim 14, wherein said signature is an
2 electromagnetic signature, and wherein said signature per unit area is an
3 electromagnetic signature cross-section per unit area.

1 16. A method as recited in claim 14, wherein said signature is a radar
2 signature, and wherein said signature per unit area is a radar cross-section per unit
3 area.

1 17. A method as recited in claim 14, wherein said signature is an acoustic
2 signature, and wherein said signature per unit area is an acoustic target strength per
3 unit area.

1 18. A method for determining the radar signature of a target object, said
2 method comprising:

3 rendering a sample object so as to be characterized by the same material as
4 said target object;

5 performing an estimation of said radar signature of said sample object;

6 based on said performing of an estimation, calculating a radar cross-section
7 per-unit-area value for said sample object as a function of aspect angle and

